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| 10/661,715 | 09/12/2003 | Michael Marcovici | 2100.004400/Blumenthal I- | 8267 |

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WILLIAMS, MORGAN & AMERSON
10333 RICHMOND, SUITE 1100
HOUSTON, TX 77042

| EXAMINER | |
|---|---|
| AJAYI, JOEL | |

| ART UNIT | PAPER NUMBER |
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| 2617 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/661,715 | MARCOVICI ET AL. | |
| | Examiner | Art Unit | |
| | JOEL AJAYI | 2617 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *14 August 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1, 7-10** are rejected under 35 U.S.C. 102(b) as being anticipated by **Mauro, II et al. (U.S. Patent Application Number: 2002/0114470)**.

Consider **claim 1**; Mauro discloses determining a private key for a first network based on at least one security value associated with a second network, wherein the private key refers to a key that once calculated, is not shared with another device (paragraphs 5, 21 and 24); and establishing a plurality of sessions between a mobile terminal and the first network using the private key (paragraphs 5, 7 and 21).

Consider **claim 7**; Mauro discloses determining at least one session key based on the determined private key (paragraphs 7 and 21).

Consider **claim 8**; Mauro discloses establishing the plurality of sessions comprises authenticating the mobile terminal to the first network for each of the plurality of sessions (paragraphs 7 and 21).

Consider **claim 9**; Mauro discloses receiving a challenge from the first network (paragraph 21); and transmitting a response associated with the received challenge, wherein the response is calculated based on the private key (paragraph 21).

Consider **claim 10**; Mauro discloses determining a session key for each of the plurality of sessions based on the private key (paragraphs 7 and 21).

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 2, 4, 11-13, 20, 21, 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Mauro, II et al. (U.S. Patent Application Number: 2002/0114470)** in view of **Zhang et al. (U.S. Patent Application Number: 2002/0174335).**

Consider **claim 2**; Mauro discloses that the second network is a cellular network, wherein determining the private key comprises determining the private key based on a shared secret data key associated with the cellular network (paragraphs 5 and 21).

Except: the first network is a wireless local area network.

In an analogous art Zhang discloses that the first network is a wireless local area network (paragraphs 16 and 69).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Mauro by including a WLAN, as taught by Zhang, for the purpose authenticating a mobile device in different wireless networks.

Consider **claims 4, 13**; Mauro discloses determining the private key further comprises populating the private key with a cryptographic transform of the shared secret data key (paragraph 21).

Consider **claim 11**; Mauro discloses a method, comprising: receiving at least one security value associated with a cellular network (paragraphs 5, 21); determining a private key for a wireless network based on the security value associated with the cellular network, wherein the private key refers to a key that, once calculated, is not shared with another device (paragraphs 5, 21, and 24); and allow establishment of a plurality of sessions between a mobile terminal and the wireless network using the private key (paragraphs 5, 7 and 21).

Except: determining a private key for a wireless local area network.

In an analogous art Zhang discloses determining a private key for a wireless local area network (paragraphs 16, 69, and 71).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Mauro by including a WLAN, as taught by Zhang, for the purpose authenticating a mobile device in different wireless networks.

Consider **claim 12**; Mauro discloses the cellular network is a code division multiple access (CDMA) network, and wherein receiving the at least one security value comprises receiving a shared secret data key associated with the CDMA network and wherein determining the private key comprises using the shared secret data key as the private key (paragraphs 5, 21).

Consider **claim 20**; Mauro discloses receiving at least one security value associated with a cellular network (paragraphs 5, 21); determining a private key based on the at least one security value (paragraphs 5, 21); determining, at a mobile terminal, a private key based on the at least one security value associated with the cellular network, wherein the private key refers to a key that, once calculated, is not shared with another device (paragraphs 5, 21, and 24); and allowing establishment of a plurality of sessions between the mobile terminal and the wireless network using the private key determined by the mobile terminal (paragraphs 5, 7 and 21).

Except: using a server associated with wireless local area network.

In an analogous art Zhang discloses using a server associated with wireless local area network (paragraphs 69, 71, and 72).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Mauro by including a WLAN, as taught by Zhang, for the purpose authenticating a mobile device in different wireless networks.

Consider **claim 21**; Mauro discloses receiving the at least one security value comprises receiving a shared secret data key associated with the cellular network and wherein determining, at the server, comprises determining the private key based on the shared secret data key (paragraph 21).

Consider **claim 24**; Mauro discloses determining, at a mobile terminal, the private key based on the at least one security value associated with the cellular network comprises determining the at least one security value associated with at least one of a CDMA network, TDMA network, GSM network, OFDMA network, and AMPS network (paragraphs 5 and 21).

**Claims 3, 5, 6, 14-19, 22, 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Mauro, II et al. (U.S. Patent Application Number: 2002/0114470)** in view of **Zhang et al. (U.S. Patent Application Number: 2002/0174335)**, further in view of **Bridgelall (U.S. Patent Application Number: 2002/0085516)**.

Consider **claims 3;** Mauro and Zhang discloses the claimed invention except: determining the private key based on the shared secret data key comprises applying a root key, an electronic serial number associated with the mobile terminal, and a network-supplied random value to a Cellular Authentication and Voice Encryption (CAVE) algorithm to generate the private key.

In an analogous art, Bridgelall discloses determining the private key based on the shared secret data key comprises applying a root key, an electronic serial number associated with the mobile terminal, and a network-supplied random value to a Cellular Authentication and Voice Encryption (CAVE) algorithm to generate the private key (paragraph 41, lines 12-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Zhang by including a CAVE algorithm, as taught by Bridgelall, for the purpose of providing a communication system that enables roaming between a wireless local area network and a cellular network.

Consider **claims 5, 15, 22**; Bridgelall discloses that the second network is a cellular network having an associated authentication center and the first network is a wireless local area network, and wherein determining the private key comprises determining the private key based on one or more random challenges generated by the authentication center associated with the cellular network (paragraph 27; paragraph 41, lines 12-34; paragraph 46).

Consider **claim 6**; Mauro discloses that the cellular network is a code division multiple access (CDMA) network, wherein determining the private key comprises determining one or more responses associated with the one or more challenges based on the shared secret data key associated with the CDMA network and combining the determined one or more responses to form the private key (paragraphs 5 and 21).

Consider **claims 14, 16**; Bridgelall discloses that receiving the shared secret data key comprises receiving the shared secret data key over a Signaling System 7 (SS7) protocol (paragraph 84, lines 1-9).

Consider **claim 17**; Bridgelall discloses receiving the one or more challenges from the authentication center and providing the one or more challenges to the mobile terminal (paragraph 41, lines 12-34).

Consider **claims 18, 23**; Bridgelall discloses providing the one or more challenges to the mobile terminal comprises providing the one or more challenges over an Extensible Authentication Protocol (paragraph 41, lines 12-34).

Consider **claim 19**; Bridgelall discloses that determining the private key comprises combining the one or more responses (paragraph 41, lines 12-34; paragraph 46).

***Conclusion***

Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**Hand-delivered responses** should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Joel Ajayi whose telephone number is (571) 270-1091. The Examiner can normally be reached on Monday-Friday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

*Joel Ajayi*

/Lester Kincaid/

Supervisory Patent Examiner, Art Unit 2617